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Vivace Readies for Boom

By Suzanne Deffree -- 3/1/2006

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There's an explosion coming to the portable media player and digital display spaces, and Vivace Semiconductor, a semiconductor startup focused on providing next-generation multi-function video processing chips, wants to be at the heart of it.

Vivace, which this week will unveil plans for its initial family of ViViD Media engine-based secure processor chips, is targeting the two markets, which are expected to see substantial growth through 2010. Specifically, S2 Data Corp. expects the portable media player market to grow at a compound annual growth rate of 61.9 percent from 2005 to 2010, while the networked digital TV market is expected to grow at a 262.8 percent CAGR over the same time period. Advertisement

"The reason the market is really opening up now is the video content market is exploding," said Cary Ussery, Vivace's CEO, noting drivers like IPTV and Apple's video iPod.

"You have a lot of content providers and aggregators trying to find different distribution methods for video. With so much content coming online, that's what really drives the need for new equipment and new equipment that can support a much broader range of interfaces and codecs. That's what Vivace's chips really bring to them, a single chip platform that is feature rich but is also low power for battery life on the lower end and high performance for HD on the higher end," Ussery continued.

Vivace's two products, the VSP200 device, targeted at portable video player devices, and the VSP300, aimed at high-definition integrated DTV devices, look to enable consumer electronics equipment to support high quality video display, personal video recorder functionality, extended audio support, and integration into both wired and wireless broadband networks. The chips support multiple video compression standards including H264/MPEG4 AVC, MPEG4 ASP, Windows Media 9, MPEG2 and VC-1; audio compression standards including AAC+, MP3 and Dolby Digital; and multiple encryption standards including AES, DES, 3-DES and DVB CSA. By integrating a broad range of media modules with multiple interfaces supporting different sources of media data, Vivace's chips aim to help lower the overall system cost of producing feature-rich consumer products.

Addressing the competition, Ussery said that today's solutions offer three different types of chips to the market. "There are general purpose DSPs, such as those you see from TI, ADI and Freescale. There are some hybrid solutions, an example being some of Broadcom's lower end chips where they have two processor cores that are sort of RISC cores with some video acceleration inside them. And then hard-coded solutions, which you find primarily in the high end, from the likes of Conexant, Broadcom, ST, Philips, where you have hard-coded logic so there's no programmability, but they are highly optimized.

"The hard-coded solutions give you the best performance power, but the fewest number of features. The general purpose DSP gives the lowest performance but you can program them with a broad range of features. Vivace, by pulling together multiple processors and providing hard-coded elements, really gives you the best of both worlds."

The chips use Linux 2.6 as the host operating system for the Open Source RISC CPU, which provides native support for real-time functionality, multi-processing and multi-threaded execution along with an

extensive list of bundled software components including rich networking and graphics.

The company further noted that advanced development systems, including reference designs, boards and an advanced software development tool suite, integrate development for all on-board processors. Vivace's chips are fully programmable and, with the exception of security features, the company provides its customers with full source code.

Vivace is implementing chips in a foundry 0.13um process and will have samples available this summer. It plans to detail its initial two product lines at the In-Stat Spring Processor Forum, May 15-18, in San Jose.

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